U.S. Patent Appln. No. 10/560,459   Docket No. 9526-72 (180732)
Amendment
Response to Office Action dated March 23, 2009

AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1.   (Currently amended) A [[F]]fluid bed (F1) granulation process of a predetermined substance, comprising:

forming granules in a granulation fluid bed through continuous growth of seeds of said predetermined substance, continuously fed into the granulation fluid bed at the same time as a flow of an appropriate growth substance in a liquid state; and

the cooling of the formed granules obtained in a second, cooling fluid bed; (F2),

characterized in that it uses wherein a same flow of fluidification air is used to form and support continuously support the granules, the flow arranged and in the order through said cooling (F2) and, respectively, said granulation (F1) fluid beds, which are substantially arranged in series with respect to said flow.

2.   (Currently amended) The [[P]]process according to claim 1, characterized, in that wherein the finished granules of said substance are transferred substantially in cascade from said granulation bed to said cooling bed.

3.   (Currently amended) An [[A]]apparatus for carrying out the fluid bed granulation process according to claim 1, comprising:

a self-supporting structure substantially shaped like a container (2), defining a granulation space (A) inside of it, in which

a shelf (14) is positioned in the granulation space, intended to support a granulation fluid bed, said shelf being permeable to gas flows; (F1),

a distributor device for seeds of granules of a substance to be granulated;

at least one distributor-supplier device for granule growth liquid substance; characterized in that it comprises, in said space (A),

a base plate (4), positioned in said space below and in a predetermined spaced relationship from said shelf (14), said base plate (4) being intended to support a respective cooling fluid bed

(F2) of hot finished granules coming from said granulation bed (F1), said cooling bed (F2) being in fluid communication with said granulation bed (F1) through said permeable shelf; (14), provided perforated, grated or in any-case permeable to gas flows,

a downcomer (16), extending vertically in said space (A), suitable for the transfer of finished granules from said granulation fluid bed (F1) to said cooling fluid bed (F2) at said base plate; and (4),

means for feeding and distributing (22, 19) fluidification air in said space (A) below said base plate (4), to form and maintain said cooling bed (F2) and said granulation bed (F1), which are arranged in series with respect to said flow.

4.   (Currently amended) The [[A]]apparatus according to claim 3, characterized-in-that wherein said downcomer (16) comprises a vertical panel (15), supported in said space (A) in a predetermined spaced relationship from a wall (8) of said container structure (2), defining with it an interspace (16), said panel (15) having a horizontal bottom side spaced from said base plate (4), so as to define with it a passage (25), suitable for putting said interspace (16) in communication with the space (A) above the aforementioned base plate (4).

5.   (Currently amended) The [[A]]apparatus according to claim 4, characterized-in that wherein said interspace (16) is in communication at the top with said space (A), through an opening (11) provided in it.

6.   (Currently amended) The [[A]]apparatus according to claim 3, characterized-in-that wherein said cooling fluid bed (F2) is in communication with the outside through a pocket (18) between a wall (7) of said container structure (2) and a front panel (17) fixed to the base plate (4) supporting the cooling bed (F2) and preferably parallel to said top wall (7).

7.   (Currently amended) The [[A]]apparatus according to claim 6, characterized-in-that wherein said front panel 17 comprises a mobile bulkhead (21), able to slide vertically and adjustable in height.